

Application No. 10/807,409

Attorney Docket No. 505 US

**REMARKS****I. STATUS OF CLAIMS**

Claims 1 – 31 are pending. Claim 1 has been amended to clarify the invention claimed. Claim 14 has been amended to include different embodiments of the retractive force mechanism. Support for amended claim 14 can be found, for example, at paragraphs [0035], [0038], and [0039] of the original specification. No new matter has been added.

**II. FORMALITIES****A. PRIORITY BENEFIT CLAIM**

Applicants have amended the specification to reference US Provisional Application No. 60/457,825 to which a present application claims a priority benefit. This priority claim was included in the Application Data Sheet of the present application. Therefore, a petition under 37 C.F.R. 1.78(a) is unnecessary.

**B. DECLARATION**

The Office has indicated that the previously presented oath is defected due to an un-initialed correction to an inventor's address. A supplemental declaration is currently being prepared and will be submitted by Applicants in due course.

**III. PRIOR ART REJECTIONS**

The Office has rejected claims 1 – 31 under 35 U.S.C. §103(a) as being obvious over US 2003/0003269 (Lee) in view of US 5,518,801 (Chappell). Specifically, the Office states that Lee teaches an apertured elastic film having large elongated cells in rows and smaller apertures arranged in a pinwheel configuration. The Office further states that Chappell teaches an embossing process to impart retraction ability on a film.

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The Office has also rejected claims 1 – 13 and 18 – 31 under 35 U.S.C. §103(a) as being obvious over US 6,472,045 (Morman) in view of US 2003/0021951 (Desai). Specifically, the Office states that Morman teaches an apertured web laminate that extends and contracts and that Desai teaches using an elongated apertured web to preserve the open space in the web when the apertures are stretched perpendicularly to their axes.

In reply, Applicants submit that the Examiner has failed to establish a *prima facie* showing of obviousness, and that claimed invention, as amended, is patentably distinct over the reference combinations cited by the Office.

**A. CLAIMED INVENTION:**

The claimed invention relates to stretchable webs having superior retractive qualities. In particular, webs constructed of certain materials, including inelastic materials, are made stretchable, at least in part, by the inclusion of a plurality of cells having an elongated axis, wherein the cells are aligned along their elongated axis so as to provide stretchability in a direction perpendicular to the alignment. Alone, such an arrangement of elongated cells, while stretchable, are not elastic (i.e., the material can be extended in a direction perpendicular to the alignment, but it is generally not capable of returning to its initial form or state after deformation). Webs of the present invention are made retractive, at least in part, by the including a retractive force mechanism disposed so as to increase the retractive force of the cells in the direction of their mechanical elasticity.

According to certain embodiments of the invention, this retractive force mechanism can have one or more of the following aspects: (a) lanes of two-dimensional material positioned between lanes of three-dimensional elongated cells; (b) lanes of a plurality of smaller cells between lanes of a plurality of larger elongated cells; (c) a reinforcing layer bonded to the web; (d) at least one bridging element positioned across at least one elongated cell; and (e) pinwheel configurations of three-dimensional cells surrounding a central cell.

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**B. PRIOR ART REFERENCES****1. US 2003/0003269 (Lee)**

Lee discloses a polymeric film web having a microapertured, three-dimensional surface that is provided with a multiplicity of comparatively larger, two-dimensional apertures. The larger apertures, which can be elongated, are taught only for their fluid management properties. Moreover, the two-dimensional apertures are disposed in the mists of microapertures, however a configuration of the microapertures with respect to the larger apertures is not taught.

**2. US 5,518,801 (Chappell)**

Chappell discloses a web material that includes two distinct and dissimilar regions – the first capable of undergoing molecular deformation, and the second capable of undergoing geometric deformation (e.g., bending, unfolding, rotating). These regions provide the material with an “elastic-like” characteristic when certain elongation forces applied and subsequently released. These two regions operate in conjunction to create a two-tiered elongation resistive force and retractive force. That is, when small tensioning forces are applied to the web, both regions will provide a force against elongation and will also provide a retractive force when the tension is removed. However, when the amount of tensioning force applied to the web is increased to the point that the first region undergoes permanent deformation (and thus will no longer provide a retractive force), the second region will continue to provide an elongation resistive force and as well as a retractive force.

**3. US 6,472,045 (Morman)**

Morman discloses an apertured laminate having striated rugosities. These striated rugosities provide extensibility and retractibility to the non-apertured portions of the laminate. The apertures are provided for liquid permeability and are preferably conically shaped.

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**4. US 2003/0021951 (Desai)**

Desai discloses an apertured web formed from a patterned calendar roller. Desai further discloses that these apertures contribute to the overall CD extensibility of the finished web, but that the aspect ratio of these apertures is preferably small (i.e., less than 6).

**C. ARGUMENTS****1. The combination of Lee and Chappell fails to teach all of the elements of claims 1 - 31.**

With respect to claims 1 – 31, the combination of Lee and Chappell fails to disclose a retractive force mechanism disposed so as to provide increased retractive force to a plurality of elongated cells. It is incontrovertible that, to establish a *prima facie* showing of obviousness, the cited reference or combination of references must include each and every aspect of the claimed invention. MPEP 2143. Here, contrary to the Office's conclusions, neither Lee nor Chappell teaches, or even suggests, a retractive force mechanism disposed so as to increase the retractive force of elongated cells.

Applicants acknowledge that Lee teaches an apertured film web having two-dimensional apertures for fluid transport. However, there is no teaching whatsoever in Lee of providing apertures having an elongated ratio to provide mechanical elasticity, aligning such apertures to provide mechanical elasticity, or providing a retractive force mechanism for increasing the retractive force of the apertures in the direction of such elasticity. Thus, Lee does not teach at least two, let alone one, aspect of the present invention.

This deficiency is not remedied by Chappell. Although Chappell briefly mentions that a web may be constructed of any of a number of materials (all of which are relatively dissimilar), including an apertured film, it fails to teach or suggest that such apertures may be aligned, or even elongated for that matter, to provide mechanical elasticity. Without even the mere teaching of aperture elongation to provide elasticity, it is not

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unexpected that Chappell also lacks any teaching of a retractive force mechanism disposed to increased retractive force of the apertures.

With respect to at least claims 2, 3, 9 – 13, 19, and 25 – 29, the combination of Lee and Chappell further fail to teach or suggest additional aspects of the retractive force mechanism. For example, the “lanes of two dimensional material positioned between lanes of three dimensional elongated cells” of claim 2 is not taught by either Lee or Chappell. The Office has not identified any portion of the cited references that suggests such an aspect. The same is true for the “lanes of a plurality of smaller cells between lanes of a plurality of larger cells” of claim 3; the “bridging element” of claims 9 – 13 and 25 – 29; and “at least one lane of two-dimensional material positions between at least one lane of three-dimensional elongated cells” of claim 19.

With respect to claims 14 – 16, the Office has argued that Lee teaches large elongated cells in rows and smaller apertures “arranged in a pinwheel configuration” around the larger apertures. Applicants respectfully disagree with the Office’s description of Lee because the elongated apertures and smaller microapertures of Lee are not grouped so as to form a pinwheel configuration, but instead are merely interspersed among each other. A “configuration” is commonly defined as a “form, as of a figure, determined by the arrangement of its parts or elements”. (See American Heritage Dictionary, 3d). It is clear that the interspersement of apertures taught by Lee certainly does not represent an *arrangement* of apertures in the form of a pinwheel about a larger aperture.

Since neither Lee nor Chappell teach or suggest at least one and possibly several elements of the claimed invention, they fail to support a *prima facie* case of obviousness, either individually or in combination. Thus, Applicants respectfully traverse the Office’s rejection of the currently amended claims over Lee in view of Chappell.

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**2. Lee and Chappell lack any motivation or suggestion to modify their teachings to arrive at the claimed invention.**

With respect to claims 1 – 31, neither Lee nor Chappell suggest the desirability of the claimed invention. It is well established in US patent law that, to establish a *prima facie* showing of obviousness, there must be motivation for combining the cited references. It is also recognized that there can be no motivation to combine/modify references unless the prior art suggests the desirability of the claimed invention. (See MPEP 2143.01.)

As demonstrated above, Applicants assert that the combination of Lee and Chappell fails to disclose each element of the claimed invention. However, assuming *arguendo* that all elements of the claim were present in the prior art, neither Lee nor Chappell present any motivation to modify their teachings to arrive at the present invention. Lee discloses that the purpose of his invention is to provide a web having apertures for fluid management and highly compressible, three-dimensional surface structures that will “enhance the soft and silky tactile impression.” (Paragraph 0060). Although Lee teaches a ply or multi-ply web, the addition of layers to the base web is directed to management of fluid flow through the web or preventing the highly compressible, three-dimensional structure from being crushed. Lee is silent on any advantage or disadvantage that may result from increasing the retractive force of a web and, thus, fails to teach, either explicitly or implicitly, the desirability of the claimed invention.

Chappell, unlike Lee, does teach the desirability of elastic recovery over multiple cycles of elongation. However, the mechanisms for imparting a retractive force that are taught by Chappell involve a two-tiered system that creates different stages of retractive force depending upon the applied tension. Chappell does not teach or suggest using such mechanisms to reinforce apertures of a web. Thus, Chappell also fails to teach, either explicitly or implicitly, the nature of the problem to be solved by the present invention – that is, to increase the retractive force of elongated cells.

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**3. The combination of Mormon and Desai fails to teach all of the elements of claims 1 – 13 and 18 – 31.**

With respect to claims 1 – 13 and 18 – 31, the combination of Mormon and Desai fails to disclose a retractive force mechanism disposed to provide increased retractive force to a plurality of elongated cells and also a plurality of elongated cells aligned to provide mechanical elasticity. As indicated above, a *prima facie* case of obviousness requires that the prior art include each and every aspect of the claimed invention. Here, contrary to the Office's conclusions, neither Mormon nor Desai teach, or even suggest, a retractive force mechanism disposed to provide increased retractive force to a plurality of elongated cells.

Desai is completely devoid of any reference to a retractive force mechanism and although it teaches apertures having a hole aspect ratio of less than 6, it fails to teach that the elongation of cells can provide mechanical elasticity. In fact, by expressly limiting the hole aspect ratio of an aperture to less than 6, Desai actually teaches away from the later element. Desai explicitly states that "while the parameter of aspect ratio of the melt-stabilized locations [i.e. precursors for apertures] alone could be sufficient to create highly extensible webs, it is believed that such webs would result in an apertured web wherein the apertures have an *unacceptably high hole aspect ratio*." (Paragraph 0059, emphasis added). As disclosed in the Applicant's specification, to impart mechanical elasticity, the aspect ratio of an elongated cell preferably is from about 5 to about 15.

Desai's failure to disclose cells elongated or aligned to provide mechanical elasticity and a retractive force mechanism disposed to increase the retractive force of the elongated cells is not cured by Mormon. As described above, Mormon teaches a apertured laminatc wherein striated rugosities impart an amount of extensibility and retractability to the non-apertured portions of the material. Mormon does not teach or even suggest that aperture elongation can provide mechanical elasticity or that a retractive force mechanism can be applied to the elongated apertures to increase the aperture's retractive force.

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With respect to at least claims 2, 3, 9 – 13, 14 – 16, 19, and 25 – 29, the combination of Mormon and Desai further fails to teach or suggest additional aspects of the retractive force mechanism for essentially the same reason that, as argued above, the combination of Lee and Chappell fails to teach or suggest these aspects.

Thus, since neither Mormon nor Desai teach or suggest one, much less two or more, elements of the claimed invention, they fail to support a *prima facie* case of obviousness, either individually or in combination. Applicants therefore respectfully traverse the Office's rejection of the currently amended claims over Mormon in view of Desai.

**4. Mormon and Desai lack any motivation or suggestion to modify their teachings to arrive at the claimed invention.**

With respect to claims 1 – 13 and 18 – 31, neither Mormon nor Desai suggests the desirability of the claimed invention. As noted above, it is well established that a *prima facie* showing of obviousness must be supported by a desirability – found either explicitly or implicitly in the references themselves – to modify the references' teachings to arrive at the claimed invention.

Such a desirability is not found in either Mormon or Desai. Mormon's teaching of retractive force is only directed to the material as a whole and not as a reinforcement of apertures, while Desai lacks a teaching of retractive force all together. There is simply nothing in either of these references that would suggest to one skilled in the art to increase the retractive force of elongated cells via a retractive force mechanism (i.e., the nature of the problem to be solved by the present invention). Accordingly, Applicants respectfully request that the rejection be withdrawn and the claims allowed.



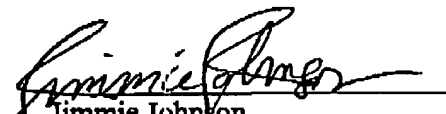
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**IV. CONCLUSION**

In view of the proposed claim amendments and the arguments presented above, the present application is believed to be in condition for allowance and an early notice thereof is earnestly solicited. The Office is invited to contact the undersigned counsel in order to further the prosecution of this application in any way.

Respectfully submitted,

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